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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/384,088	08/27/1999	BRENDAN MURRAY	52817.000093	7366

29315 7590 12/11/2003

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EXAMINER
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CHANNAVAJJALA, SRIRAMA T

ART UNIT	PAPER NUMBER
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DATE MAILED: 12/11/2003

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 33

Application Number: 09/384,088  
Filing Date: August 27, 1999  
Appellant(s): MURRAY ET AL.

\_\_\_\_\_  
Rick A. Toering  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 31 October 2003.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

It is however, noted that applicant has not responded to the "Double Patent" rejection in the appeal Brief, therefore, examiner hereby maintains "Double Patent" rejection.

**(7) *Grouping of Claims***

Appellant's brief includes a statement that claims 1,9,17,25; Claims 2,10,18,26, Claims 2,10,18,26, Claims 3,11,19,27, Claims 4,12,20,28; Claims 5,13,21,29; Claims

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6,14,22,30; Claims 7,15,23,31; Claims 8,16,24,32; Claims 40-43; Claim 37 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

5,778,400 ✓	Tateno	07-1998
5,946,648 ✓	Halstead, Jr. et al.	08-1999
6,321,192 ✓	Houchin et al.	11-2001
W)92/15067 ✓	Marshall	09-1992

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1- 2, 4-10, 12-18, 20-26, 28-32, are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateno, US Patent No. 5778400 in view of Halstead, Jr. et al. [hereafter Halstead], US Patent No. 5946648.

2. As to Claims 1,9,17, 25, Tateno details a system which including 'evaluating characters in an inputted search string to generate a search index' [col 5, line 4-23, col 5, line 55-57, Abstract, fig 1], examiner interpreting characters in an inputted search string corresponds to Tateno's text or word(s), search index corresponds to fig 1, element 14, 'accepting an input of the characters of the search string' [col 5, line 24-26, col 6, line 60-67, fig 1], 'characters can be represented in any of a plurality of character sets corresponding to an undetermined language' [col 5, line 4-15, col 5, line 39-41, line 64-67, col 6, line 1-4, col 11, line 5-8], characters of search string corresponds to word(s) or text because text comprises sentences, words, phrases,' generating the search index by assigning character sets to a code page wherein the character sets are assigned based on the results of the evaluation of the search string and candidate character sets that correspond to the characters of the search string' [col 8, line 18-36, fig 1-3], examiner interpreting search index corresponds to Tateno's fig 1, element 14,

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character sets corresponds to tags or words of a structured document as detailed in col 8, line 23-24, assigning character sets to a code page corresponds to tagging documents for desired word or character set in a text using the tags as reference because search index comprising words as detailed in col 4, line 66-67, col 5, col 6, line 1-3. fig 2, col 8, line 59-67. It is, however, noted that Tateno does not specifically detail the claimed limitation 'evaluating the search string by comparing each of the characters of the search string to a plurality of predetermined set of candidate sets'. On the other hand, Halstead details a system which including 'evaluating the search string by comparing each of the characters of the search string to a plurality of predetermined set of candidate sets' [col 6, line 54-63, col 7, line 48-61, col 9, line 40-50, col 10, line 20-40, line 63-67, col 12, line 65-67], comparing the characters of the search string corresponds to Halstead's matching of stem characters in the prefix analysis as detailed in fig 18-19, predetermined set of candidate character sets corresponds to prefix morphology file, fig 18, element 132.

It would have been obvious one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Halstead into searching through a tagged document for the location of a desired word in text using the tags as reference units for search and retrieval using search index system of Tateno because they are both directed to storing and identifying text strings [see Halstead Abstract, fig 3; Tateno Abstract, fig 3], while Tateno specifically teaches search index as detailed in fig 3, element 4. One of ordinary skill in the art at the time of applicant's invention would have

been motivated to modify Tateno's reference, more specifically modify fig 4 to incorporate templates fig 14, element 98 matching characters connected to the matching, further forming a look up table containing predetermined characters because that would have allowed users of Tateno's search index system to control which relative combination of sets satisfies the evaluating the search string criteria, bringing the advantages of reduce dependency on static dictionaries and to avoid the access overhead and unknown word identification problems as suggested by Halstead [see col 3, line 55 65].

3. As to Claims 2,10,18, 26, Halstead teaches a system which including 'comparing each character of the search string to an entry for each of the candidate character sets in a character table bank' [see fig 14-15, col 9, line 51-60, line 67, col 10, line 1-3, line 26-40], examiner interpreting character table bank corresponds to Halstead's look-up table as detailed in fig 14, element 90.

4. As to Claims 4,12,20, 28, Halstead details a system which including 'universal code is Unicode' [col 8, line 15-21], examiner interpreting Unicode corresponds to Halstead's 16-bit Unicode.

5. As to Claims 5,13,21, 29, Halstead details a system which including 'total number of characters matched to each of the candidate character sets' [col 9, line 51-67, col 10, line 1-3, fig 15].

6. As to Claims 6,14,22, 30, Halstead details a system which including 'selecting a best match based upon the total number of characters matched to each of the candidate character sets' [col 10, line 63-67, col 11, line 1-7].
7. As to Claims 7,15,23, 31, Tateno details a system which including 'evaluating the characters of a query string' [fig 1, col 5, line 18-23].
8. As to Claims 8,16,24, 32, Tateno details a system which including 'performing a search of the query string against search indices' [fig 1, 3,5,7,9, col 9, line 20-25], on the other hand Halstead teaches 'character set match' [see fig 15, col 12, line 65-67, col 13, line 56-61].
9. Claims 3,11,19,27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateno, US Patent No. 5778400, Halstead, Jr. et al. [hereafter Halstead], US Patent No. 5946648 as applied to claims 1,9,17,25 above, and further in view of Houchin et al., [hereafter Houchin], US Patent No. 6321192.
10. As to Claims 3,11,19, 27, Halstead teaches a system which including universal code for that character and an indicator in the character table bank indicating whether each of the candidate character sets contains that character' [col 8, line 19-29]; however, both Tateno and Halstead do not specifically teach 'performing a logical mask between a universal code'. On the other hand, Houchin details a system which



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including 'performing a logical mask between a universal code' [see fig 3, fig 5, col 6, line 16-32].

It would have been obvious one of the ordinary skill in the art the time of the applicant's invention to combine the concepts taught by Houchin with the system of Tateno, Halstead because masking used to choose one of several output sequences based on the flag(s) condition, further mask to form the bit mask used to enable or disable various required conditions as detailed in Halstead [see col 6, line 21-23].

11. Claims 37, 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateno, US Patent No. 5778400, Halstead, Jr. et al. [hereafter Halstead], US Patent No. 5946648 in view of Marshall, WO 92/15067.

12. As to Claim 37, 40-43, Tateno teaches a system which including 'accepting an input of the characters of the search string' [col 5, line 24-26, col 6, line 60-67, fig 1], 'characters can be represented in any of a plurality of character sets corresponding to an undetermined language' [col 5, line 4-15, col 5, line 39-41, line 64-67, col 6, line 1-4, col 11, line 5-8], characters of search string corresponds to word(s) or text because text comprises sentences, words, phrases; Tateno teaches 'search string to one or more character sets of a character bank by parsing the characters of the search string and identifying the one or more character sets of the character bank that express each of the characters of the search string' [col 7, line 59-67, col 8, line 1-4], 'generating a search index based on the results of evaluation of the search string and the plurality of

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pre-determined candidate character set' col 8, line 18-36, fig 1-3], examiner interpreting search index corresponds to Tateno's fig 1, element 14, character sets corresponds to tags or words of a structured document as detailed in col 8, line 23-24. It is however, noted that Tateno does not specifically teaches 'evaluating the search string by comparing each of the characters of search string to a plurality of pre-determined candidate character sets'. On the other hand, Halstead teaches 'evaluating the search string by comparing each of the characters of search string to a plurality of pre-determined candidate character sets' [col 6, line 54-63, col 7, line 48-61, col 9, line 40-50, col 10, line 20-40, line 63-67, col 12, line 65-67], comparing the characters of the search string corresponds to Halstead's matching of stem characters in the prefix analysis as detailed in fig 18-19, predetermined set of candidate character sets corresponds to prefix morphology file, fig 18, element 132. It is also noted that both Tateno and Halstead do not specifically teach 'character set indicators of a bit mask to determine a match between each of the character set'. On the other hand Marshall teaches a system which including 'character set indicators of a bit mask to determine a match between each of the character set'[see abstract, page 14, line 14-31, page 16, line 18-30, fig 3-4], character set indicators corresponds to character associated with specific pattern and position as detailed in fig 2-3.

It would have been obvious one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Marshall into storing searching, retrieving text of a structured document with tags of Tateno, identification of words in

Japanese text by a computer system of Halstead, et al because all of them are directed to searching methods, for example, Marshall is directed to substring searching method, more specifically Marshall is directed to locating, searching substring that matches a given character pattern of one or more characters, that further allows to check pattern or mismatch between pattern and corresponding substring. It is also noted that Marshall teaches substring search uses shift masks that corresponds to various character patterns [see Abstract, fig 2-4]. Halstead, Tateno are directed to storing and identifying text strings [see Halstead Abstract, fig 3; Tateno Abstract, fig 3], specifically Tateno teaches search index as detailed in fig 3, element 4.

One of ordinary skill in the art at the time of applicant's invention would have been motivated to modify for example Tateno's reference, more specifically modify fig 4 to incorporate templates fig 14, element 98 matching characters connected to the matching, further forming a look up table containing predetermined characters, and comparing pre-selected character set with possible pattern occurrence, pattern position for various shift mask(s) for character of pattern because that would have allowed users of Tateno, Halstead search index system to control which relative combination of character sets that satisfies bit mask to determine match between character pattern occurrences from the mask table, bringing the advantages of possible match between character sets and match between pattern and a substring of character string, thus improving the search method as suggested by Marshall [Abstract].

**(11) Response to Argument**

it is noted that Applicant remarks, at page 4-17 of the response, are merely conclusory statements, without any support. Applicant is merely repeating the language of the claim, without addressing Examiner's particular interpretation of the reference, as presented in the previous Office action, and without specifying how the instant amendments address the issues raised by Examiner. Accordingly, Examiner repeats the arguments previously presented.

a) At page 5-7, Claims 1,9,17,25 Applicant's assertions in the Appeal Brief that "evaluating the search string by comparing each of the characters of the search string to a plurality of pre-determined candidate character sets to determine one or more matches between the plurality of predetermined candidate character sets and the search string" not taught or suggested in Tateno and Halstead or in combination ....

As to the above [a] limitation, examiner notes in the previous office action that Tateno does not specifically suggests the limitation ""evaluating the search string by comparing each of the characters of the search string....", also examiner notes that Halstead clearly teaches "evaluating the search string by comparing each of the characters of the search string.....[see col 6, line 54-63, col 7, line 48-61, col 9, line 40-50, col 10, line 20-40, line 63-67, col 12, line 65-67]. As further, Examiner disagree with the applicant because firstly, Halstead is directed to identification of words in a text, more specifically word formation elements and processing in a natural language such

as morphological processing that identifies postfix and prefix [see Abstract, col 6, 54-63, col 7, line 48-61], secondly, Halstead teaches for example comparing characters and morphology file that content as detailed in col 7, line 48-61, thirdly as noted in the previous office action, comparing the characters corresponds to Halstead's matching of stem characters in the prefix analysis as detailed in fig 18-19, further predetermined set of candidate character sets corresponds to prefix morphology file, as detailed in fig 18, element 132, also it is noted that comparing each of the characters to a predetermined set of characters are integral part of Halstead's teaching because Halstead specifically suggests identifying possible stems in the phrase by comparing characters in the input string.....[see col 14, line 23-26]

b) Applicant's assertion in the Appeal Brief that "A stem can not be considered a single character" [page 6 of Appeal brief] is not persuasive, since the claims do not distinguish from the use of character sets or search string. The instant claim language "evaluating the search string by comparing....." [Claims, 1,9,17,25] "reads-on" the use of "Analysis" section of morpheme and the characters as detailed in col 7, line 48-61, further more, as best understood by the examiner stem analysis [Halstead fig 2] comprises atleast a single character not "stem cannot be considered a single character [see Appeal brief page 6].

c) At page 7, Claims 1,9,17,25, Applicant's assertions in the Appeal Brief that "appellants respectfully submit that a character set is a digital representation involving

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binaries. As best understood by the examiner both Tateno and Halstead specifically suggests character sets for example Tateno's words or gags corresponds to character sets [see Tateno: fig 3, col 9, line 3-4, line 25-26] because every word is associated with the tag location, further more, Halstead specifically suggests for example each character field specifies a 16-bit Unicode value (which may be specified by 4 hexadecimal digits) [see Halstead :col 8, line 15-19] and therefore, character set is a digital representation involving binaries is part of Halstead's teaching and hence not persuasive. Accordingly, Applicant's remarks are deemed not to be persuasive, and claims 1,9,17,25 stand rejected under 35 USC 103(a) unpatentable over Tateno in view of Halstead. It would have been obvious one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Halstead into searching through a tagged document for the location of a desired word in text using the tags as reference units for search and retrieval using search index system of Tateno because they are both directed to storing and identifying text strings [see Halstead Abstract, fig 3; Tateno Abstract, fig 3], while Tateno specifically teaches search index as detailed in fig 3, element 4.

One of ordinary skill in the art at the time of applicant's invention would have been motivated to modify Tateno's reference, more specifically modify fig 4 to incorporate templates fig 14, element 98 matching characters connected to the matching, further forming a look up table containing predetermined characters because that would have allowed users of Tateno's search index system to control which relative

combination of sets satisfies the evaluating the search string criteria, bringing the advantages of reduce dependency on static dictionaries and to avoid the access overhead and unknown word identification problems as suggested by Halstead [see col 3, line 55 65].

d) At page 7, Claims 2,10,18,26 Applicant argues that "comparing each character of the search string to an entry for each of the candidate character sets in a character table bank" is not taught or suggested by Tateno and Halstead.....

As to the above argument [d], examiner disagree with the applicant because Halstead specifically directed to look-up table for postfix morphological map, further in the postfix morphemes analysis a comparison between primary lexicon and postfix morphemes suggests score should be assigned to each matching primary lexicon entry as a separate word for further morpheme analysis as suggested at col 9, line 64-67, col 10, line 1-7], also primary lexicon look-up does store matching word acts like a table, therefore character table bank corresponds to Halstead's look-up table as detailed in fig 14, element 90. Examiner applies above arguments to Claims 10,18,26 that include similar features with regard to Claim 2.

e) At page 8, Claims 4,12,20,28, Applicant's argues that Claim 4 includes "Universal code is Unicode"

As to the above argument [e], as noted in the previous office action Halstead specifically teaches metacharacters are encoded by" Unicode" values [se col 8, line 19-20], as best understood by the examiner Unicode is a 16-bit character encoding standard developed by the Unicode consortium is well known in the art, also it is noted that Halstead specifically suggests for example 16-bit Unicode value [see col 8, line 15-17] that corresponds to Universal code is Unicode.

f) At page 9, Claim 4, applicant argues that "performing a logical mask between a Unicode for a character and an indicator in a character table bank....."

As to the above argument [f], examiner noted in the previous office action that both Tateno and Halstead do not specifically suggest, "performing a logical mask between a universal code". On the other hand Houchin suggests the limitation performing a logical mask between a universal code as detailed in fig 3, 5,col 6, line 16-32 [see page 21] . Both Tateno and Houchin are directed to search mechanism, more specifically Tateno is directed to searching and retrieving text documents with tags [se Abstract, fig 7], Houchin is directed to matching keywords using keyword data structure by means of hash index [see Abstract, fig 2], while Halstead is directed to identification of words in natural language text string, more specifically Japanese text string using



morphological process as detailed in Abstract, fig 2. It is however noted that, both Houchin, and Halstead suggests using Unicode values [see Houchin: col 4, line 14-26; Halstead: col 8, line 15-20], both Houchin and Halstead suggests using look-up table [see Houchin: fig 2, element 20; Halstead: look-up table fig 14, element 90], furthermore, Houchin specifically suggests logical mask between universal code [see fig 3,5, col 6, line 16-32], therefore, it would have been obvious one of the ordinary skill in the art the time of the applicant's invention to combine the concepts taught by Houchin with the system of Tateno, Halstead because masking used to choose one of several output sequences based on the flag(s) condition, further mask to form the bit mask used to enable or disable various required conditions as detailed in Halstead [see col 6, line 21-23]. Claims 12,20,28 include similar features to those discussed above with regard to Claim 4, also examiner applies same arguments to [Appeal Brief, page 13], dependent claims 3,9,19,27 respectively.

g) At page 9, Claims 5,13,21,29, applicant argues "computing a total number of characters matched to each of the .....". Is not taught or suggested by Tateno and Halstead.

As to the above argument [g], examiner disagree with the applicant because Halstead specifically teaches identifying possible stems in the phrase by comparing characters in the string with stem characters [see col 14, line 23-26], further as best

under stood by the examiner matching entries are stored at primary lexicon, therefore, Halstead teaches possible matching characters to each of the candidate character sets. Examiner applies above discussed arguments to Claims 13,21,29.

h) At page 10, Claims 6,14,22,30, applicant argues, "selecting a best match based upon the total number of characters matched....." Is not taught or suggested by Tateno and Halstead.

As to the above argument [h], examiner disagree with the applicant because Halstead specifically suggests for example opHEME matching proceeds that including opHEME template, further opHEME template contains specifically character type, character match information, frequency of occurrence of the opHEME template pattern as detailed in col 10, line 63-67, col 11, line 1-7, especially frequency of occurrence suggests at minimum best match based upon the total number of characters matched in the prefix analysis , see col 11, line 1-7. Examiner applies above discussed arguments to Claims 14,22, 30 .

i) At page 11, Claims 7,15,23,31, applicant argues "evaluating the characters of a query string" is not taught or suggested by Tateno and Halstead.

As to the above argument [i], examiner disagree with the applicant because Tateno specifically directed to searching and retrieving structured document with tags,

more specifically generating search index that comprising words and locations of the reference words [see Abstract, col 5, line 18-23], further it is noted that each word associated with the tag location of each reference unit in which the word appears that is being evaluated as detailed in col 8, line 65-67, col 9, line 1-2]. Examiner applies above discussed arguments to Claims 15,23,31.

j) At page 12, Claims 8,16,24,32, applicant argues, "performing a search of the query string against search indices....." Is not taught or suggested by Tateno and Halstead.

As to the above argument [j], examiner disagree with the applicant because at minimum Tateno specifically suggests for example search and retrieval of tags is part of performing search of query string against search index as detailed in fig search index as detailed in fig 1,3,5, col 9, line 20-25. Although Tateno does not specifically teach 'character set matching ', Halstead specifically teaches identifying, matching character string as detailed in col 12, line 65-67, col 13, line 56-61, therefore, this feature is suggested by Tateno and Halstead combination. Examiner applies above discussed arguments to Claims 16,24,32.

k) In response to Applicant's amendment and remarks, concerning the 35 USC 103(a) rejection of Claims 37,40-43 as being unpatentable over Tateno, Halstead, et al., in view of Marshall, Examiner notes the following:

Again, Applicant's remarks, at page 14-16 of the response, are merely conclusory statements, without any support. Applicant is merely repeating the language of the claim, without addressing Examiner's particular interpretation of the references nor the combination of references as presented in the previous Office action, and without specifying how the instant amendments or claims address the issues raised by Examiner. Accordingly, Examiner repeats the rejection as previously presented.

l) At page 14, Claim 37, applicant argues Appellants' invention is directed to "comparing representations of each character of a text against pre-selected character set indicators of a bit mask", accordingly, Marshall does not teach or suggest the claimed feature .

As to the above argument [I], as best understood by the examiner, Tateno is directed to searching and retrieving text documents with tags [see Abstract, fig 7], Marshall is directed to searching method, more specifically locating within a character string a substring that matches a given character pattern of one or more characters [see page 1, line 5-8]; therefore, at minimum both Tateno and Marshall are directed to searching and retrieving of character string, further Halstead et al., is directed to identification of words in a text, more specifically character stems in the phrase are identified by comparing characters in the input string with stem character pattern [see col 2, line 37-42], Marshall also teaches various algorithms, one of the algorithm

specifically directed to possible-match derived from one or more character items to be utilized in determining the next pattern, also Marshal defines possible-match records means that the order in which character items in the string are tested against the pattern can be varied as detailed in page 7, line 21-27, therefore, the prior arts at minimum suggests comparing character(s) with pre-selected or target characters. It is however noted that in the previous office action that both Tateno and Halstead do not specifically teach the limitation 'character set indicators of a bit mask to determine a match between each of the character set. On the other hand, Marshall specifically suggests this limitation 'character set indicators of a bit mask to determine a match between each of the character set' as detailed see Abstract, page 14, line 14-31, page 16, line 18-30, fig 3-4, further examiner interpreting character set indicators corresponds to character associated with specific pattern and position as detailed in fig 2-3 of Marshall.

It would have been obvious one of the ordinary skill in the art at the time of applicant's invention to incorporate the teachings of Marshall into storing searching, retrieving text of a structured document with tags of Tateno, identification of words in Japanese text by a computer system of Halstead, et al because all of them are directed to searching methods, for example, Marshall is directed to substring searching method, more specifically Marshall is directed to locating, searching substring that matches a given character pattern of one or more characters, that further allows to check pattern or mismatch between pattern and corresponding substring. It is also noted that Marshall teaches substring search uses shift masks that corresponds to various character

patterns [see Abstract, fig 2-4]. Halstead, Tateno are directed to storing and identifying text strings [see Halstead Abstract, fig 3; Tateno Abstract, fig 3], specifically Tateno teaches search index as detailed in fig 3, element 4.

One of ordinary skill in the art at the time of applicant's invention would have been motivated to modify for example Tateno's reference, more specifically modify fig 4 to incorporate templates fig 14, element 98 matching characters connected to the matching, further forming a look up table containing predetermined characters, and comparing pre-selected character set with possible pattern occurrence, pattern position for various shift mask(s) for character of pattern because that would have allowed users of Tateno, Halstead search index system to control which relative combination of character sets that satisfies bit mask to determine match between character pattern occurrences from the mask table, bringing the advantages of possible match between character sets and match between pattern and a substring of character string, thus improving the search method as suggested by Marshall [Abstract].

m) At page 15, Claim 37, applicant argues "a first column of the character bank corresponds to a first column of the bit mask" and "the first column of the character bank and the first column of bit mask corresponds to the same character set" is not taught or suggested in Tateno, Halstead or Marshall.

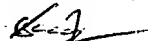
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As to the above argument [m], as discussed above both Tateno, Halstead do not specifically suggest this limitation. On the other, Marshall suggests a first column of the character bank corresponds to a first column of the bit mask" and "the first column of the character bank and the first column of bit mask corresponds to the same character set" [see fig 4, page 16, line 18-29, page 17, line 15-23], Marshall specifically suggests CSM or current shift mask that indicates all pattern positions in the current text range for possible positions for pattern occurrences, further, Marshall also suggests shifting procedure preserves all information about possible positions of pattern occurrences as detailed in page 17, line 26-27, therefore, it would have been obvious to one of the ordinary skill in the art to arrange first column of the character bank corresponds to first column of the bit mask because current shift mask allows for pattern positions as detailed above. Examiner applies above arguments to Claims 40-43.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
Srirama Channavajjala  
Primary Examiner  
Art Unit 2177

SC

December 8, 2003

**Conferees**

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